32N 2005

(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 23 September 2004 (23.09.2004)

PCT

(10) International Publication Number WO 2004/082108 A1

(51) International Patent Classification7:

H02K 57/00

(21) International Application Number:

PCT/IB2004/000648

- (22) International Filing Date: 23 February 2004 (23.02.2004)
- (25) Filing Language:

Italian

(26) Publication Language:

English

(30) Priority Data: TO2003A000196

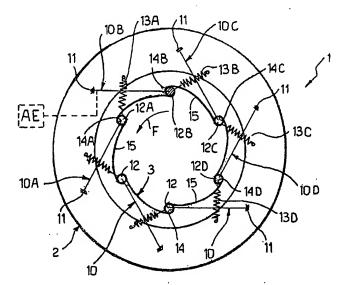
14 March 2003 (14.03.2003) IT

- (71) Applicant (for all designated States except US): C.R.F. SOCIETA' CONSORTILE PER AZIONI [TT/IT]; Strada Torino, 50, I-10043 Orbassano (IT).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): ZANELLA, Alessandro [IT/IT]; Via Tirreno, 139, I-10100 Torino (IT). BUTERA, Francesco [IT/IT]; Corso Vittorio Emanuele II, 22, I-10100 Torino (IT). ALACQUA, Stefano [IT/IT]; Corso Einaudi 115/A, I-10090 Rivoli Cascina Vica (IT).

- (74) Agents: GALLAROTTI, Franco et al.; c/o Buzzi, Notaro & Antonielli d'Oulx S.r.l., Via Maria Vittoria, 18, I-10123 Torino (IT).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: DISCRETE STEP ROTARY ACTUATOR



(57) Abstract: A discrete step rotary actuator (1) comprises a stator (2), a rotor (3) and at least an actuating element (10) made with a shape memory active material, the actuating element (10) having a first portion (11) anchored to said stator and a second portion with a terminal element (12). The rotor has a sequence of seatings (14) arranged as a circumference, into which the terminal element (12) can engage in a sequential way. Elastic means (13) placed between the actuating element (10) and the stator (2) induce the shift of the terminal element (12) between two consecutive seatings (14), during the passage of the active material from its shortened to its extended configuration. The passage of the active material from the extended configuration to its shortened configuration imparts the rotor (3) a rotation couple with respect to the stator (2).

2004/082108 A1 ||||||||

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.